

# ***PAD 3***

**Kortpulsdon**

**Pulsed arc device**

**Kurzpulsationsschweiss-steuerung**

**Coffret de pulsations courtes**

**Bruksanvisning och reservdelsförteckning**

**Instruction manual and spare parts list**

**Betriebsanweisung und Ersatzteilverzeichnis**

**Manuel d'instructions et liste des pièces détachées**

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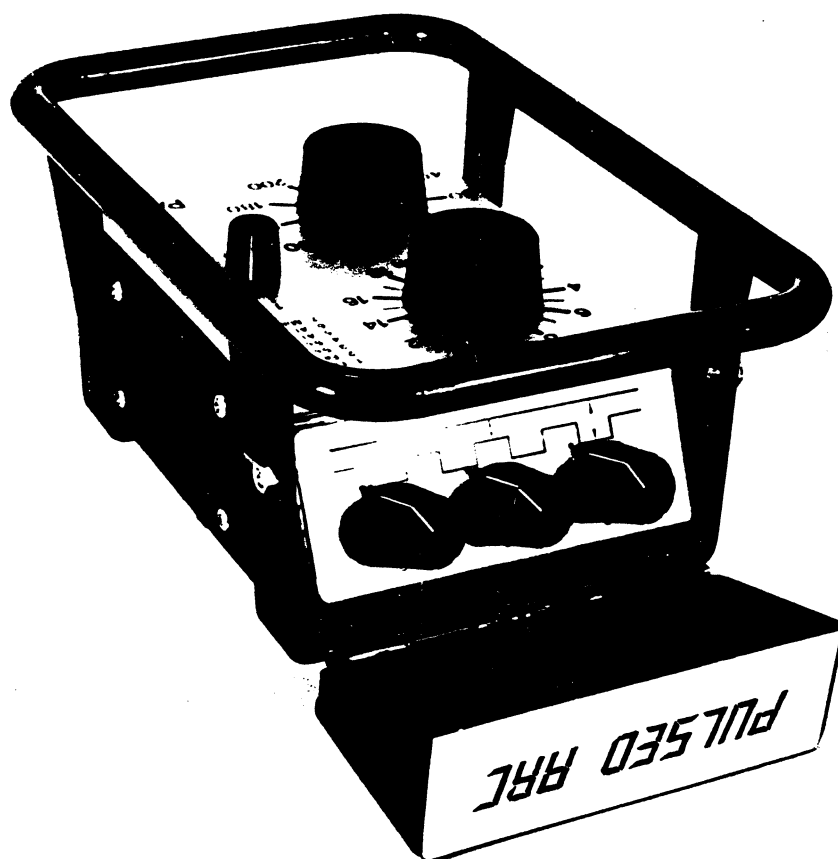
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## TECHNICAL DESCRIPTION

PAD 3 is the denomination of a pulsed arc device. It is intended to be connected to the LUA 400 inverter power source.

By control via the PAD 3 the power source delivers a continuous (direct current) base current that can be adjusted, and a superposed pulsed current of adjustable amplitude and duration.

The base current is sufficient to maintain the arc, but not to transfer any material from the filler wire to the workpiece. It also preheats the wire and the workpiece.

The melting of the wire is caused by the superposed pulsed current, at the rate of one drop per pulse. The droplet transfer from the wire over to the workpiece occurs without causing a short circuit, why the transfer of material is smoother and more uniform than with ordinary short pulse welding.

The effect is an artificial spray arc, which works in the normal short arc range and mixed arc range.

By adjusting the pulse frequency and the voltage, the wire feed speed and the heat input rate can be controlled. The lower the pulse frequency, the less the heat input.

The following five parameters are controlled by the PAD 3:

- Welding current (wire feed speed)
- Arc length (frequency)
- Pulse time
- Pulse amplitude
- Base current

Besides, there are six preprogrammed combinations of parameters in the PAD 3, which can be selected by means of a 7-position switch. Position 7 is for manual setting.

The six standard programs are:

Program no.	Wire material	Wire Ø	Recommended shielding gas
1	Al	1,2	Ar
2	Al	1,6	Ar
3	SS	1,0	98% Ar + 2% O
4	SS	1,2	98% Ar + 2% O
5	Fe	1,0	80% Ar + 20% CO <sub>2</sub>
6	Fe	1,2	80% Ar + 20% CO <sub>2</sub>

Fig 1

## OPERATION

1. Connect the PAD 3 to the remote control socket on LUA 400.
2. Select program according to fig 1.
3. If no one of the six preset programs is suitable, set the parameters manually (position 7).
4. Select welding current and arc length in the same way as for conventional welding with semi-automatics.

### Ordering number:

PAD 3	367 502-880
Connection cable, 5 m	367 144-884
Connection cable, 10 m	367 144-885
Connection cable, 15 m	367 144-886

## ADVANTAGES OF SHORT PULSING FOR DIFFERENT MATERIALS:

### Aluminium:

- The method makes it possible to weld thin gauge material with spray arc, using large-size wire.
- Thick wire makes the wire feed easier.
- Good breaking up of oxide.
- Working area 2-5 mm.

### Stainless steel:

- Requires lower heat input than with spray arc, and consequently it causes less deformation. However, the heat input is higher than for short arc.
- Allows welding in thin stainless steel sheet without spatter, what also applies to short arc welding.

### Non-alloyed steel:

- Allows welding of both the root run and the filler run with the same wire (often large-size cored wire).
- Easier to weld without spatter in the mixed arc range. (No great advantages compared to short arc welding.)